

CONTRIBUTIONS TO A KNOWLEDGE OF THE FLORA OF AUSTRALIA.

No. II.

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ZYGOPHYLLÆ.

TRIBULUS TERRESTRIS, *Linn.*—Mostly regarded as an inland species, but it extends to both sides of the Dividing Range, occurring at Minto (M. Ryan).

RUTACEÆ.

BORONIA ANEMONIFOLIA, *A. Cunn.*, var. DENTIGERA, *Benth.*—This rare form of the species occurs at Mittagong (W. A. Dixon), also on the Sugar Loaf Mountain, Braidwood, 5 ft. 10 in. high. (W. Bäuerlen).

MELIACEÆ.

SYNOUM GLANDULOSUM, *Juss.*—In the gullies at Bundanoon, Southern Line (B. Dunstan).

RHAMNEÆ.

CRYPTANDRA LONGISTAMINEA, *F.v.M.*—Woodburn, near the mouth of the Richmond River (W. Bäuerlen). The only locality given in *B.Fl.* Vol. i. p. 444 is New England (C. Stuart).

SAPINDACEÆ.

*CUPANIA PUNCTULATA, *F.v.M.*—This plant was described originally (*F.v.M.*, *Frag.* iii. 12, and by Bentham, *Flora Aus.* i.

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458) from material lacking flowers and seeds. Mr. Bäuerlen has been successful in collecting complete material of the species at Tumbulgum, where the tree attains a height of over 50 feet and a diameter of 15 inches. The flowers may now be described as follows :—Panicles axillary, either single or a cluster of from five to six, about 3 inches long. Flowers not numerous, distant; buds globular, a little over one line in diameter. Sepals imbricate in the bud, almost orbicular, unequal, glabrous; petals oval, glabrous, about 1 line long. Sepals and petals reddish with hyaline edges. Stamens eight, pubescent towards the base.

**NEPHELIUM DIVARICATUM*, *F.v.M.*—Lismore (W. Bäuerlen).

LEGUMINOSÆ.

BOSSLEA FOLIOSA, *A. Cunn.*—As an instance of the adaptation of plants to environmental conditions, it may be here recorded that plants of this species collected on the Crackenback Mountain (Mt. Kosciusko) at an elevation of 5,000 feet, by W. Bäuerlen, have the calyx pubescent (as mentioned by Bentham, *B.Fl.* ii. p. 160), whilst specimens of undoubtedly the same species collected at Heydon's Bog, Delegate, 3000 feet, by this gentleman, have the calyx quite glabrous.

ACACIA BAKERI, *J.H.M.*—Tumbulgum, Tweed River, extending also into Queensland (W. Bäuerlen).

ACACIA RUBIDA, *A. Cunn.*—This species is known at Gerogery as "Silver Wattle" (Isaac Mann). This is its most southern recorded locality

ACACIA GLAUCESCENS, *Willd.*—Deep Creek, Quiedong River, Delegate District (W. Bäuerlen).

PITHECOLOBIUM MULLERIANUM, *J.H.M. et R.T.B.*—Tweed River, Murwillumbah (W. Bäuerlen), and probably extending also into Queensland.

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SAXIFRAGEÆ.

ARGOPHYLLUM NULLUMENSE, sp.nov.

(*Argophyllum nitidum*, Labill., Baker, P.L.S.N.S.W. 1897, p. 232).

In Part i. of these Contributions a full description is given of a plant from Nullum Mt., Murwillumbah (W.B.), accompanied by a figure, placed tentatively under *A. nitidum*, Forst., as no specimens of that species are preserved in the Colony. Since publishing that description I have forwarded specimens to the Director, Royal Gardens, Kew, England, who very kindly compared them with Forster's original and writes me as follows:—"Forster's specimen has *smaller, entire leaves, much less acuminate*, and with slightly longer petioles. The flowers of Mr. Baker's specimens appear to be typical. A specimen collected by Mr. Webb in New Caledonia has toothed leaves, but the teeth are much smaller than in Mr. Baker's plant, and in other respects they agree with the type."

As it is on the differences in leaf-characters that the known species of this genus are founded, and the material collected at Nullum Mountain differs from both *A. Lejournani*, F.v.M., and *A. nitidum*, Forst., it is here proposed to carry out the suggestion in my former paper (*loc. cit.*) and designate the New South Wales plant as *A. Nullumense*.

MYRTACEÆ.

CALLISTEMON COCCINEUS, F.v.M.—This species extends from the South Australian border to almost the coast, having been collected at Dinner Creek, Clyde Road, Braidwood (W. Bäuerlen).

EUCALYPTUS spp.

The following localities are of interest in regard to the respective species:—

E. BOSISTOANA, F.v.M.—Barber's Creek (H.R.).

E. LÆVOPINEA, var. *MINOR*, R.T.B.—Between Sutton Forest and Berrima Coal Mine. Additional evidence points to this

being a new species. Since it was recorded (P.L.S.N.S.W. 1898, p. 416) it appears now to be identical with the tree which the late Baron von Mueller regarded as a Stringybark form of *E. hæmastoma* (*Eucalyptographia*, Dec. ii.). The botanical and chemical evidence show very clearly that the two are quite distinct.

E. PALUDOSA, *R.T.B.*—Bundanoon (T. Steel).

E. MAIDENI, *F.v.M.*—Barber's Creek (H.R.).

E. AMYGDALINA, *Labill.*—Bundanoon (T. Steel).

E. OBLIQUA, *L'Her.*—Bundanoon (T. Steel).

E. FASTIGATA, *H.D. et J.H.M.*—("Cut-Tail.") This species, which is easily identified by its fissile timber and pear-shaped fruits, probably occurs on the coast range from the Victorian to the Queensland border.

E. TERMINALIS, *F.v.M.*—Angledool (A. Paddison), Cobar (H. Cambage).

E. BRIDGESIANA, *R.T.B.*—Goulburn (A. J. Sach), Bathurst, slopes of Bald Hills (W. J. C. Ross, B.Sc.).

E. PULVERULENTA, *Sims.*—Fairly plentiful about Barber's Creek, but beyond Marulan there are hundreds of acres of it.

LORANTHACEÆ.

VISCUM ARTICULATUM, *Burm.*—Yaloroi in the Warialda-Goon-diwindi district, "growing on several kinds of scrub" (Mr. D. A. Porter). Recorded also from Narrabri (P.L.S.N.S.W. 1897, p. 254).

COMPOSITÆ.

**CONYZA ÆGYPTIACA*, *Ait.*—Murwillumbah (W. Bäuerlen). The plant has toothed leaves like the Egyptian plant referred to by Bentham (*B.Fl.* Vol. iii. p. 497).

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CALOCEPHALUS CITREUS, Less.—Bungendore, Lake George (W. Bäuerlen). Previously recorded from west of the Dividing Range.

SAPOTACEÆ.

**ACHRAS POHLMANIANA*, F.v.M.—Tumbulgem (W. Bäuerlen). Bentham describes it as a shrub, but W. Bäuerlen's measurements give the trees as about 60 feet high and 12 inches in diameter. The wood is softer and whiter than that of the other species.

EBENACEÆ.

**MABA SERIOCARPA*, F.v.M.—The description of this plant in Bentham's *Flora Australiensis* (Vol. iv. p. 389) is lacking in one or two essential characters which were wanting in the material examined. These I now add:—Female flowers solitary in the axils of the leaves. Calyx $1\frac{1}{2}$ lines long, silky villous with a pair of ovate brown bracts at the base. Corolla 2 lines long, tube glabrous, shorter than the calyx, lobes silky hairy on the back. Ovary 1 line long, covered with minute silky hairs. Fruit under six lines in diameter, sprinkled with silky appressed hairs. Bentham records the calyx lobes "nearly as long as the berry," but this is not so in my material, but only $\frac{1}{4}$ the length of the fruit.

The male flowers are also shorter than described (*loc. cit.*), the calyx measuring one line and the corolla two, lobes obtuse, short.

The general aspect of the plant would lead one to name it at once as *M. hemicycloides*, F.v.M., and the calyx, fruit and leaves agree with that species, but it differs from it and *M. laxiflora*, Benth., in being "silky-pubescent with rust-coloured hairs," which feature and the appressed hairs of the leaves preclude one from removing it from *M. seriocarpa*, F.v.M. My own opinion is that *M. seriocarpa*, F.v.M., *M. hemicycloides*, F.v.M., and *M. laxiflora*, Benth., are all one and the same species. The long

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lobes of the female calyx, above referred to, may be perhaps a typegraphical error.

Tumbulgum (W. Bäuerlen).

APOCYNÆ.

LYONSIA LILACINA, *F.v.M.*—Judging from specimens obtained by W. Bäuerlen at Lismore, there appears to be in that locality a form of this species differing from Bentham's description (*B.Fl.* iv. p. 321).

The leaves are strongly reticulate and shining above, and the flowers are all in *axillary cymes*, and the corolla-tube and lobes pubescent inside only; the calyx-lobes are also spreading, as in *L. induplicata*, *F.v.M.*

Fruit terete before dehiscing, about 2 to 3 lines in diameter and 5 to 6 inches long.

LYONSIA INDUPPLICATA, *F.v.M.*—Mr. J. H. Maiden has collected this species as far south as Robbinsville, near Bulli. The fruit, not previously recorded, is shorter than that of *L. lilacina*, *F.v.M.*, and is flattish and very acuminate.

OMALANTHUS STILLINGIFOLIUS, *Baill.*—As far as I am aware, this species is only recorded from the northern rivers, but I find it occurs near the top of the Sugar Loaf Mountain, Braidwood (W. Bäuerlen), associated with *Eriostemon Coxii*, *F.v.M.*, *Hakea MacRaeana*, *F.v.M.*, and *Eucalyptus Bäuerleni*. It is mostly found in the crevices of the rocks.

SOLANÆ.

SOLANUM PARVIFOLIUM, *R.Br.*—Angledool, N.S.W. (in flower and fruit in March, 1898; Mr. A. Paddison).

BIGNONIACEÆ.

TECOMA BAILEYANA, *J.H.M. et R.T.B.*—Tumbulgum, under exactly the same conditions as at Mullumbimby, *i.e.*, on steep banks of creeks (W. Bäuerlen).

POLYGONACEÆ.

RUMEX DUMOSUS, *A. Cunn.*—On the eastern slope of the main Divide at Murwillumbah (W. Bäuerlen).

LAURINEÆ.

CINNAMOMUM OLIVERI, *Bail.*—Bexhill, Alstonville, and Tintenbar, in the Richmond River District; most plentiful at Bexhill, and at Murwillumbah and Tumbulgum on the Tweed, also at Mullumbimby on the Brunswick; more plentiful about Mullumbimby and Murwillumbah than anywhere else (W. Bäuerlen).

PROTEACEÆ.

GREVILLEA FLORIBUNDA, *R.Br.*—Gerogery (J. Mann). This is its most southerly recorded locality.

GREVILLEA HILLIANA, *F.v.M.*—Mr. Bäuerlen reports that this tree grows to a great height at North Tumbulgum, some trees measuring 100 feet in height and 2 feet in diameter.

GREVILLEA JUNIPERINA, *R.Br.*—This species extends as far south as Monga, Clyde Road, Braidwood; and both red and yellow flowers are found on the same plant at Mongarlowe (Braidwood) where the species is plentiful on the banks of the Little River (W. Bäuerlen).

BANKSIA SERRATA, *L.*—Occurs as far west as Cadia, Orange (W. Wallace).

EUPHORBIACEÆ.

*EXCÆCARIA DALLACHYANA, *Baill.*—H. E. Baillon regarded this plant as a variety of *E. Agallocha*, Linn., but Bentham (*B.Fl.* Vol. vi. p. 153) although placing it as a species, also expresses a doubt whether it is not rather a variety of that species.

From the quantity of material collected at Tumbulgum and Ballina by W. Bäuerlen of both plants respectively, the two appear to be quite distinct. Bentham states (*loc. cit.*) that the flowers, both male and female, are apparently the same as in *E. Agallocha*. This does not hold with the specimens from Tumbulgum, for the male spikes of *E. Dallachyana*, Baill., are much shorter as well as more slender, being rarely over 9 lines long, whilst those of *E. Agallocha* are sometimes as much as 5 inch long. The fruits, however, are nearly 5 lines in diameter.

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URTICEÆ.

FIGUS CUNNINGHAMII, *Miq.*—Richmond River (W. Bäuerlen). The receptacles of this species are not "solitary or two together" as stated by Bentham (*B.Fl.* vi. 165) but often in clusters at the base of the petioles.

CONIFERÆ.

CALLITRIS MUELLERI, *Parl.*—Carlton, near National Park, Sydney (Mr. Clark). Not recorded south of Port Jackson previously. It also occurs on the Blue Mountains at King's Tableland (W. Bäuerlen).

CALLITRIS CALCARATA, *R.Br.*—Murrumbo, on the Goulburn River (R.T.B.). This species is not confined to the country west of the main divide as previously supposed.

ORCHIDEÆ.

SPIRANTHES AUSTRALIS, *Rich.*—Centennial Park, Sydney (Miss S. Hynes, B.A.). In flower in February and March.

PTEROSTYLIS PEDUNCULATA, *R.Br.*—North Tumbulgum, previously recorded from the Blue Mountains (flowering in September; W. Bäuerlen). My specimen differs somewhat from Fitzgerald's figure of the species; the labellum is differently shaped, and also the wings of the column, and their points do not cross each other; the penicillate appendage at the base of the labellum appears also to be smaller.

DIOSCORIDEÆ.

PETERMANNIA CIRROSA, *F.v.M.*—Tumbulgum and Bellambil Creek (W. Bäuerlen), its range thus extending to the Queensland border. The plant from this locality has many more prickles on it than the Clarence River plant, and the fruits measure 5 lines in diameter; Bentham gives 3 lines. In fruit in July.

PANDANACEÆ.

FREYCINETIA EXCELSA, *F.v.M.*—This species, first recorded from N.S.W. by me (P.L.S.N.S.W. 1897, p. 236) from the watershed of

the Tweed River, occurs also on the northern watershed of the Brunswick River, where it grows in great masses covering steep banks of creeks, as well as ascending trees (W. Bäuerlen).

FILICES.

HYMENOPHYLLUM BIVALVE, *Swartz*.—This species was originally recorded for this Colony by Baron von Mueller in S. Sc. Rec. June, 1883, as occurring at Brogher's Creek, Shoalhaven (W. Bäuerlen). It is, however, omitted from Moore and Betche's Handbook of the Flora of N.S.W.

PTERIS FALCATA, *R.Br.*, var. NANA, *Bail.*—Plentiful on the Tweed, Brunswick and Richmond Rivers, extending as far south as the Cambewarra Mountain, Shoalhaven (W. Bäuerlen, 1884).

MUSCI.

NECKERA BAEUERLENI, *Solms-Laubache*.—Tingiringi Mountain, Delegate District (W. Bäuerlen, 1888).

RAPHIDOSTEGIUM TINGIRINGENSE, *Geheeb*.—Mt. Tingiringi (W. Bäuerlen).

CATHERINEA (ATRICHUM) LEPTOCYLINDRICA, *C. Müller*.—Delegate River (W. Bäuerlen, 1885).

POLYTRICHUM RECURVIPILIS, *C. Müller*.—Braidwood District, 3,400 feet elevation (W. Bäuerlen, 1884).

BRYUM (EUBRYA) BAEUERLENI, *C. Müller*.—Clyde River (W. Bäuerlen, October, 1884).

BRYUM (RHODOBRYUM) SUBOLIVACEUM, *C. Müller*.—Clyde River (W. Bäuerlen, October, 1884); Richmond River (Rev. W. W. Watts, 1898).

HEPATICÆ.

BRACHYLEJEUNEA PLAGIOCHILOIDES, *Stephani et Bruce*.—Clyde River (W. Bäuerlen, 1884).

TRACHYLEJEUNEA ELEGANTISSIMA, *Stephani*.—Clyde District (W. Bäuerlen, 1884). *Stephani* notes:—"This is undoubtedly the most splendid of all the Lejeuneas known to me. The

thickened, strongly refracting cell-wall of the hyaline and rounded off papillæ causes the whole plant by transmitted light to be strewn over with numberless luminous points."

LEPTOLEJEUNEA ROSULANS, *Stephani*.—Clyde District (W. Bäuerlen, 1884).

LICHENES.

PARMELIELLA BAEUERLENI, —Brogher's Creek, Shoalhaven (W. Bäuerlen, 1884).

FUNGI.

*AGARICUS VERNUS, *Bull.*—John's River, Taree (Mr. E. T. T. Rootes).

*AGARICUS OLIVACEO-ALBUS, *Cke. & Mass.*—Kogarah, near Sydney (Mr. J. L. Bruce).

AGARICUS (PLEUROTUS) CANDESCENS, *Müll.*—This phosphorescent fungus, occurring on dead wood, is extensively known throughout N.S.W., and yet it appears never to have been recorded for this Colony.

*RUSSULA AUSTRALIENSIS, *Cke. & Mass.*—Mount Kembla (Mr. A. G. Hamilton); Katoomba (Mr. T. Steel).

LENTINUS FASCIATUS, *Berk.*—John's River, Taree (Mr. E. T. T. Rootes).

*BOLETUS LACUNOSUS. *Cke. & Mass.*—Woodford, Blue Mts. (W. Bäuerlen).

BOLETUS BOVINUS, *Fr.*—Dobroyde, Sydney (R.T.B.) Pileus 10 c.m. broad, brown, shining or viscid above, dark yellow underneath, stems inclined to excentric. Edible.

*STROBILOMYCES VELUTIPES, *Cke. & Mass.*—Katoomba (Mr. T. Steel).

*POLYPORUS OVINUS, *Fr.*—Belmore, near Sydney; on the ground. (R.T.B.)

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**POLYPORUS HARTMANNI*, *Cke.*—Hornsby, near Sydney; on the ground (R.T.B.). Only previously recorded from Queensland.

POLYPORUS EUCALYPTORUM, *Fr.*—Gerogery; on "Brown Stringybark," *E. capitellata*, Sm. (J. Manns).

**FOMES LUCIDUS*, *Fr.*—Tumbulgum (W. Bäuerlen). Can be identified with little difficulty from Cooke's description in *Aust. Fungi*, p. 128.

POLYSTICTUS XANTHOPUS, *Fr.*—Tumbulgum; on decaying logs (W. Bäuerlen).

**STEREUM BICOLOR*, *Fr.*—Belmore, near Sydney, on dead burnt timber; one side is generally attached to the host; it has a gregarious habit and apparently grows in terraces (R. T. Baker). This species is new for Australia.

**HYMENOCHÆTE CACAO*, *Berk.*—Tamworth, on dead wood (Mr. D. A. Porter).

CORTICIUM CÆRULEUM, *Fries.*—Kogarah (Mr. J. L. Bruce).

HIRNEOLA POLYTRICHA, *Mont.*—Manly, on decaying trunks of *Ficus rubiginosa* (R.T.B.); Bellumbil Creek, on decaying logs (W. Bäuerlen). This fungus is the "Mu-esh" of Central China.

**PEZIZA VESICULOSA*, *Bull.* "Bladdery *Peziza*."—Strathfield, near Sydney, growing on dung (Mr. Walter Lewis).

**MELAMPSORA NESODAPHNES*, *B. & Br.*—This minute fungus (although wrongly matched as regards its host) occurs on the fruits of *Cinnamomum Oliveri*, Bail., as far south as Port Macquarie.

**ÆCIDIUM VIOLÆ*, *Schum.*—Monga, on the leaves of the native violet, *Viola betonicaefolia*, Sm., (W. Bäuerlen). Previously recorded only from Victoria.

**OIDIUM TUCKERI*, *B.*—Lake Cowal, Marsden; on vine leaves (Miss Allen).

**PHYSARUM RUFIBASIS*, *B. & Br.*—Tamworth (Mr. D. A. Porter).

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